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Meeting Minutes Transmittal/Approval
Unit Managers' Meeting
Remedial Action and Waste Disposal Unit/Source Operable Unit
3350 George Washington Way, Richland, Washington
August 1999

APPROVAL: _____ Date 4-18-00
Glenn Goldberg/Chris Smith, 100 Area Unit Managers, RL (H0-12)

APPROVAL: _____ Date 4-20-00
Wayne Soper, 100 Aggregated Area Unit Manager, Ecology (B5-18)

APPROVAL: _____ Date 4-20-00
Dennis Faulk, 100 Aggregate Area Unit Manager, EPA (B5-01)

APPROVAL: _____ Date 4-20-00
Rick Bond, 100-N Area Unit Manager, Ecology (H0-18)

Meeting minutes are attached. Minutes are comprised of the following:

Attachment 1	–	Agenda
Attachment 2	–	Attendance Record
Attachment 3	–	100 Area UMM Minutes - August 1999
Attachment 4	–	100 Areas Verification Packages - FY00 Packages to be Completed
Attachment 5	–	116-C-5 Backfill Concurrence Checklist
Attachment 6	–	116-B-1 Backfill Concurrence Checklist
Attachment 7	–	116-B-11 Backfill Concurrence Checklist
Attachment 8	–	116-B-13 Backfill Concurrence Checklist
Attachment 9	–	116-B-14 Backfill Concurrence Checklist

Prepared by: Amy J. Jones (H0-10)/Tamen Rodriguez Date 3/30/00

Concurrence by: Vern Dronen, BHI Remedial Action and Waste Disposal Project Manager (H0-17) Date 4/20/00

UNIT MANAGERS' MEETING AGENDA

3350 George Washington Way
August 19, 1999

1:00 – 4:00 p.m. 100 Area 1B45

100 Area Remedial Action

- Documents Requiring Regulator Approval in FY00
- DWP
- Oregon Workshops Presentation Status
- Status of 100-N RODs
- 100 Area Tri-Party Agreement Milestones
- 116-H-4 Site Closeout with 117-H Filter Building (both SCE sites)
- 108-F Debris as Backfill at 116-B-14 Waste Site – WIDs Database Entry (continued discussion from 7/99 UMM)
- Outfalls Remediation – as Presented in DWP; Applicability of 30 Per Year Irrigation Scenario (continued discussions from 7/99 UMM)
- Updated Status of Cr6+ Kd/Leachablility Testing
- Other

100 Area Assessment

- 100-D Ponds; Certification of Closure Process Complete
- 100 Area Burial Ground Brief Status – (Discussions are being held off line)

Attachment 2

Remedial Action and Waste Disposal Unit Manager's Meeting
Official Attendance Record
August 19, 1999

Please print clearly and use black ink

PRINTED NAME	ORGANIZATION	O.U. ROLE	TELEPHONE
Thomas Kisenwether	BHI	Group 4 Task Ld	531-0673
Jon Fancher	CHI	Closeout Lead	372-9610
Frank Corpuz	BHI	Proj. Engineer	373-1661
Alvin Langstaff	ERC	Task Lead	373-5876
Jack Donnelly	Ecology	Cleanup Project Mgr	736-3013
John April	BHI	100 Area Burial Gnd 5 FC	2-9632
Ella Coerenberg	CHI	Task Lead Support	372-9303
Rick Bond	Ecology	100 N Area	736-3037

Attachment 2

Remedial Action and Waste Disposal Unit Manager's Meeting
Official Attendance Record
August 19, 1999

Please print clearly and use black ink

PRINTED NAME	ORGANIZATION	O.U. ROLE	TELEPHONE
Glenn Goldberg	DOE-RL	Proj. Manager	376-9552
Chris Smith	DOE/AME	Proj. manager	372-1544
Dennis Faulk	EPA	RPM	6-8631
Wayne Soper	Ecology	D Area	736-3049
Rick Donaldson	BHI	Tank Tech	372-9565
FRED ROECK	BHI	Environ Mgr	372-9086
Mark Sturgeon	ERC	Resident Engineer	373-5579

MEETING MINUTES
REMEDIAL ACTION AND WASTE DISPOSAL
UNIT MANAGERS' MEETING -- 100 AREA
August 19, 1999

Attendees: See Attachment #2

Agenda: See Attachment #1

Topics of Discussion:

100 Area Remedial Action

1. Documents Requiring Regulator Approval in FY00 -- ERC presented the Cleanup Verification Package (CVP) schedule (Attachment 4) for packages that will be reviewed and completed in Fiscal Year (FY) 2000. ERC stated that Douglas Sherwood of EPA had commented, in a previous meeting, that the review time period for at least one CVP package was too short. ERC and DOE stated that this would be corrected for future regulator CVP reviews. In ERC's FY00 CVP production schedule, 38 CVP packages are scheduled for completion. ERC asked if this aggressive schedule would be acceptable to the regulators. EPA stated that they would be able to support this schedule with their current staffing levels. Also, DOE discussed changing the CVP transmittal letter text so regulators are given sufficient review time after receipt of the letter and CVP packages. DOE proposed including in the transmittal letter a statement such as "15 days from receipt of this letter" rather than giving specific dates. All attendees agreed to this text change, and also briefly reviewed the review and approval signature process.

2. Split samples -- ERC stated that the regulators' use of split sample analysis was an effective tool in providing independent verification of ERC's sample results. EPA stated that, up to now, ERC sample data and the split sample data have correlated in a satisfactory manner. Due to the good correlation, EPA plans to perform split sample analysis on every third waste site. Ecology will also continue to perform split sample analysis.

3. DWP -- ERC discussed the funding and remediation schedule for the outyears (FY00-FY02). During these years, remediation activities are planned to include the 100 B/C backfill, B/C pipelines, 100 DR small sites and DR pipelines, completion of excavation and backfill at 100 H and startup and excavation at 100 F and 100 N, and design activities.

   Ecology stated that they would like to avoid making multiple interim changes to the existing waste site Tri-Party Agreement (TPA) milestones. Ecology believed it would be more effective to deal with all such changes when completing upcoming TPA milestone M-16-00F "Establishing dates for completion of all 100 Area Remedial Actions" which is due 12/31/01. By negotiating both currently needed changes and the future schedules at the same time, all changes can be recognized and made during one effort (saving time, money, effort and schedule).

Attendees agreed that this would be the most effective method to address any needed interim changes. DOE stated that they will discuss this proposed method of making changes, and if agreed upon will request ERC to author the appropriate letters to transmit this agreement. Because the milestones needing re-negotiation are due before 12/31/01 an agreement on how to handle these is required (e.g. delay, extend, and void).

ERC also reviewed the factors that are causing the dates of f milestones M-16-07B, M-16-08B, M-16-13A, M-16-13B and M-16-26C to be renegotiated. In the case of H, ERC explained that scope growth (plumes) and the subcontract structure (to excavate at one site at a time) were factors.

4. Oregon Workshops Presentation Status – EPA and Ecology will both make presentations at these workshops. The attendees briefly discussed presentation content and the schedule of the two-day workshops.

5. Status of 100-N RODs – Ecology stated that they have completed writing a draft of the Record of Decision documents for 100-NR-1 and 100-NR-2 by using the Remaining Sites ROD as a model. Ecology plans to deliver the drafts to both EPA and DOE shortly for review. Ecology is also completing the revision of the Treatment, Storage and Disposal (TSD) Sites ROD and will also provide that draft to EPA and DOE for review. The TSD ROD includes several major changes, including corrected cleanup standards, standardized language in accordance with the other RODs, and revised groundwater remediation text to explain how a pump and treat system works.

6. 100 Area Tri-Party Agreement Milestones – see discussion under the DWP.

7. 116-H-4 Site Closeout with 117-H Filter Building (both SCE sites) – ERC advised Ecology that the closeout for these two waste sites had been pushed out due to accommodate completion of "clean sites" release strategy. ERC also discussed that the list of the actual 10 sites required to accomplish TPA milestone M-16-26C is not clear. The *Remedial Design Report/Remedial Action Work Plan* (RDR/RAWP) document contains different numbers of sites required to meet the TPA requirements. ERC is currently researching the difference, and plans to reconcile the two lists and make the correct identification of sites to be remediated. ERC will present the reconciled list at the next Unit Managers Meeting. The required sites can be discussed and concurred upon by attendees at that meeting.

8. 108-F Debris as Backfill at 116-B-14 Waste Site – ERC stated that the WIDs Database Entry has been made for the site, and that additional statement by EPA should shortly be included in the database. ERC will verify that EPA's additional statement was included in the database entry. Attendees discussed the use of rubble as fill material when backfilling waste sites. DOE stated that if supplemental funding is obtained for demolition work, more potentially clean rubble could be generated to use as fill material. ERC took the action to revise the RDR/RAWP, in order to include technical parameters for showing rubble is uncontaminated, and could thus be used as fill material.

9. Outfalls Remediation – as Presented in DWP; Applicability of 30 Per Year Irrigation Scenario (continued discussions from 7/99 UMM) – ERC stated that the outfall structures are included in remaining waste sites. ERC will try to include some the design work for outfall remediation in to the FY00 schedule. At 100 B/C, there should be sufficient resources to do some of the design work. At 100 D, outfall structure design will be performed as allowed after resources are focused on the 100 D pipeline remediation. ERC will compile a master list of the remaining waste sites and the factors that will be considered in each site's schedule. ERC also discussed the applicability of 30 Per Year Irrigation Scenario to the 100 B/C outfall that will be remediated in FY00. EPA and Ecology both stated that they would like to review data from the B/C outfall while remediation is in progress. After evaluating the site data, all parties can then discuss further remediation that may needed and make applicable engineering decisions.

10. Updated Status of Cr6+ Kd/Leachablility Testing – ERC stated that the initial data from the this testing looks promising in demonstrating no impact to the River resulting from residual Cr6+ soil concentrations at the 116-D-7 waste site. ERC personnel are currently performing verification of the data. By the next Unit Manager Meeting, ERC hopes to present RESRAD results of data from the 116-D-7 waste site.

11. Other – the following items were discussed:

- ERC noted that the backfill concurrence checklists have been finalized for 116-C-5 (included in the previous UMM minutes as an attachment), 116-B-1, 116-B-11, 116-B-13, and 116-B-14 (Attachments 5, 6, 7, 8, and 9).

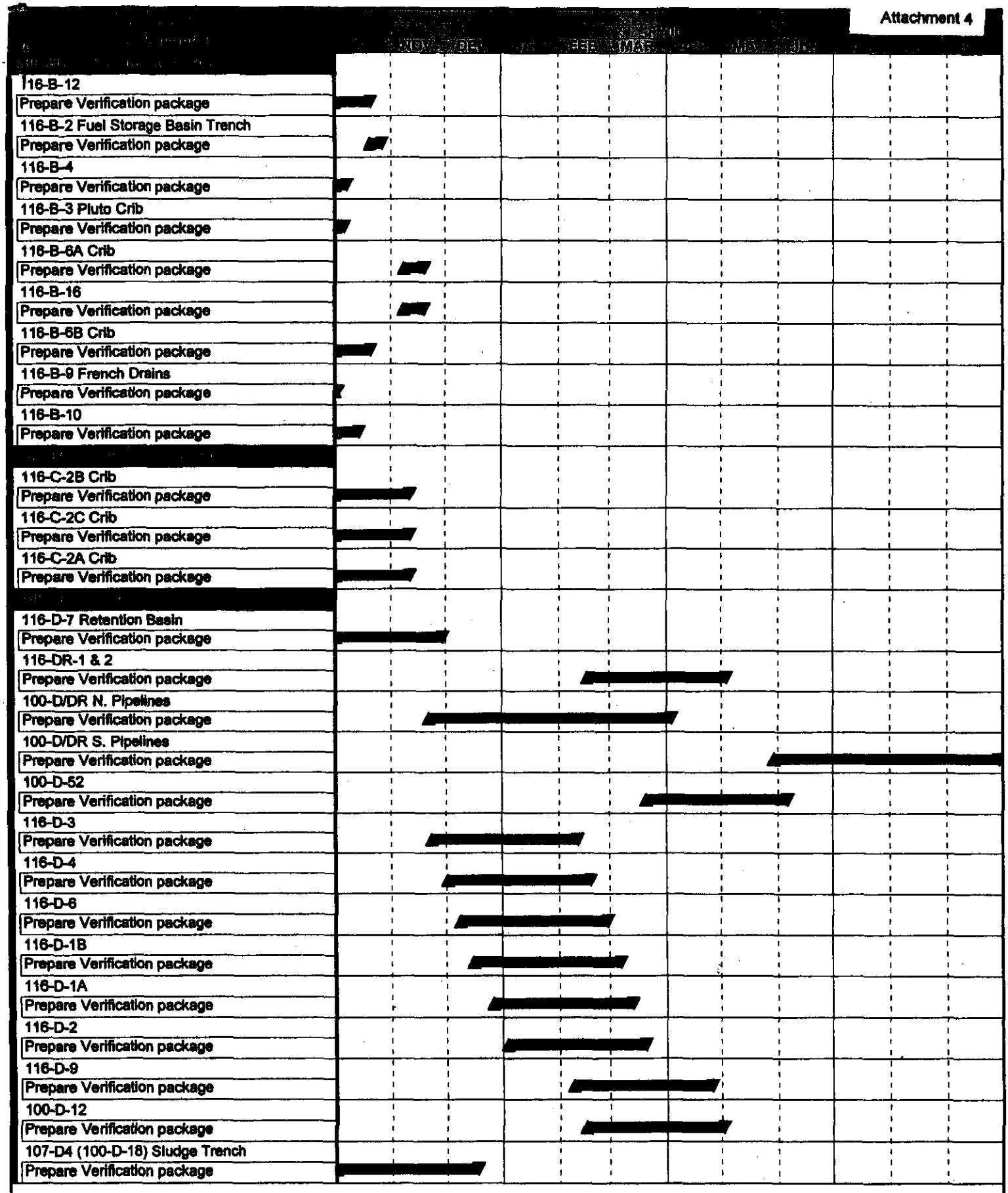
- ERC stated that revised potential-to-emit calculations were performed for the 100 D Group 3 sites for upcoming pipeline excavations South of D Avenue . The calculations examined the possible airborne hazards associated with the activity and the surrounding locations. After reviewing the calculations, ERC moved one of the site air monitors to a more effective location. The potential-to-emit calculations and move of this air monitor were approved and documented in letter CCN 072175.

- Ecology stated that their attorneys reviewed the applicability of the reporting requirements called out in Washington Administrative Code, section 173-400. Ecology's attorneys documented Ecology's official concurrence with the applicability of reporting requirements in a letter. Ecology will provide the letter to ERC.

- Attendees briefly discussed possible documentation on the applicability of NEPA regulations to the barrow pits in the 100 Areas.

- ERC stated that the 116- F-1 Ashpit Test Plan document (for cone pentrometer testing with radiation detectors) was undergoing internal review. ERC will try to provide EPA with a draft of the document for review by the end of the month.

Attachment 4



Project Start	01OCT99
Project Finish	19FEB03
Data Date	01OCT99
Run Date	17AUG99

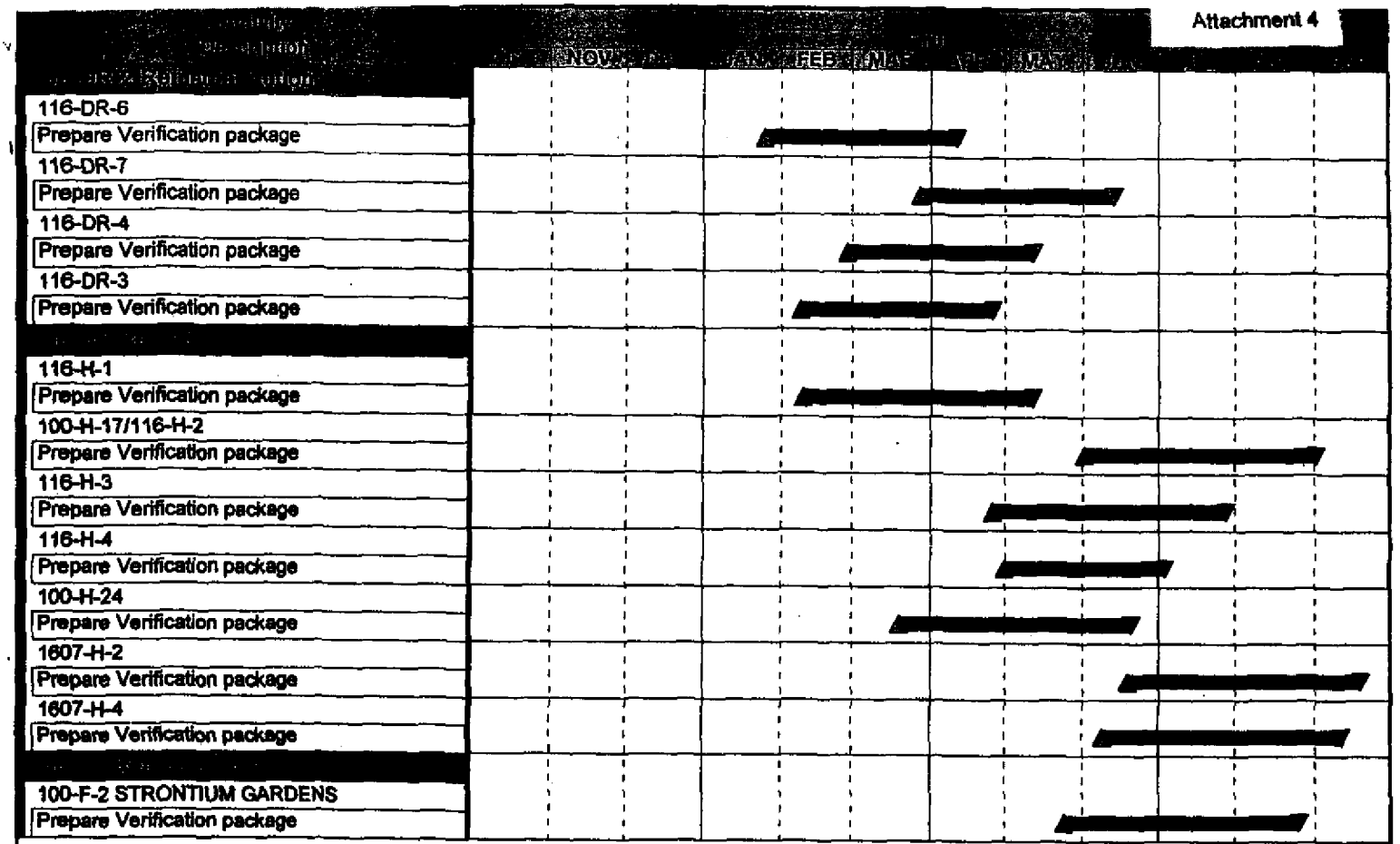
Early Bar
Progress Bar
Critical Activity

VER0

Sheet 1 of 2

100 Areas Verification Packages

FY00 Packages to be Completed



Project Start 01OCT99 Project Finish 18FEB03 Data Date 01OCT99 Run Date 17AUG99 © Primavera Systems, Inc.	Early Bar Progress Bar Critical Activity	VER0 100 Areas Verification Packages FY00 Packages to be Completed	Sheet 2 of 2

Waste Site: 116-C-5	**BACKFILL CONCURRENCE CHECKLIST** (Concurrence to Proceed with Waste Site Backfill Operations)	Attachment 5 116-C-5

This checklist is a summary of cleanup verification results for this site. The checklist is intended as an agreement allowing the ERC subcontractor to backfill this site prior to the issuance of the final cleanup verification package. The lead regulatory agency has been provided copies of detailed calculations. The results are summarized below.

Regulatory Requirement	Remedial Action Goals (RAG)	Results	RAG Attained	Ref.
Direct Exposure – Radionuclides	1. Attain 15 mrem/yr dose rate above background over 1000 years.	1. Maximum dose calculated by RESRAD is 14.6 mrem/yr (not accounting for clean backfill).	Yes	A
Direct Exposure – Nonradionuclides	1. Attain individual COC RAGs.	1. All individual COC concentrations are below the RAGS.	Yes	B
Meet Nonradionuclide Risk Requirements	1. Hazard quotient ratio of <1 for noncarcinogens.	1. All hazard quotient ratios are below 1.	Yes	B
	2. Cumulative hazard quotient ratio of <1 for noncarcinogens.	2. Cumulative hazard quotient ratio is 0.023.		B
	3. Excess cancer risk of $<1 \times 10^{-6}$ for individual carcinogens.	3. Excess cancer risk for individual carcinogens are all less than 1×10^{-6}.		B
	4. Attain a cumulative excess cancer risk of $<1 \times 10^{-5}$ for carcinogens.	4. Cumulative excess cancer risk is 6×10^{-10}.		B
Groundwater/River Protection – Radionuclides	1. Attain single COC groundwater & river RAGS.	1. All single COC Groundwater and river RAGs have been attained.	Yes	C
	2. Attain National Primary Drinking Water Regulations 4-mrem/yr (beta/gamma) dose standard to target receptor/organ.	2. All organ specific doses are below the 4-mrem/yr dose standard.		C
	3. Meet National Primary Drinking Water Regulations 15 pCi/L (alpha activity) standard.	3. The alpha activity is 0 pCi/L for all years.		C
Groundwater/River Protection – Nonradionuclides	1. Attain individual nonradionuclide groundwater & river RAGs.	1. All the groundwater and river RAGs have been attained.	Yes	A,B
Other Supporting Information	1. The maximum excess cancer risk from radionuclides (calculated via RESRAD modeling) is 1.3×10^{-4} at present.			A
	2. Sample variance calculation (available upon request).			D
	3. Sample location design (available upon request).			E

All citations above and references on attached sheet are on record with Bechtel Hanford, Inc., Document and Information Services. Above noted regulatory requirements have been attained.

[signature]	5/27/99	[signature]	5/27/99	[signature]	5/27/99
BHI Task Manager	Date	BHI Project Engineer	Date	DOE Project Manager	Date

Given the attached information DOE can proceed with backfill of the site with minimal risk. Final approval that the site has met RAOs and RAGs will occur with the submittal, review, and approval of the Cleanup Verification Package by the lead regulatory agency.

[signature]	6-1-99	N/A	N/A
EPA Project Manager	Date	Ecology Project Manager	Date

Backfill Concurrence Checklist Attachments/References

Attachment 5

Attachment	Ref.	Description
1	***	Summary of cleanup verification results
2	A	RESRAD Calculations Supporting Closeout of the 116-C-5 Remediation Site, 0100B-CA-N0010
3	B	116-C-5 95% UCL Calculations for Compliance with Cleanup Standards, 0100C-CA-V0007
4	C	116-C-5 Comparison to Drinking Water Standards, 0100C-CA-V0008
	D	Sample Variance Calculation, 0100B-CA-V0016 (available upon request)
	E	Sample Location Design, 0100B-CA-V0015 (available upon request)
5		116-C-5 Deep Zone Cleanup Verification Model, 0100B-CA-V0018

Waste Site: 116-B-1	**BACKFILL CONCURRENCE CHECKLIST** (Concurrence to Proceed with Waste Site Backfill Operations)	Attachment 6 116-B-1

This checklist is a summary of cleanup verification results for this site. The checklist is intended as an agreement allowing the ERC subcontractor to backfill this site prior to the issuance of the final cleanup verification package. The lead regulatory agency has been provided copies of detailed calculations. The results are summarized below.

Regulatory Requirement	Remedial Action Goals (RAG)	Results	RAG Attained	Ref.
Direct Exposure – Radionuclides	1. Attain 15 mrem/yr dose rate above background over 1000 years.	1. Maximum dose calculated by RESRAD is 4.97 mrem/yr (not accounting for clean backfill).	Yes	A
Direct Exposure – Nonradionuclides	1. Attain individual COC RAGs.	1. All individual COC concentrations are below the RAGS.	Yes	B
Meet Nonradionuclide Risk Requirements	1. Hazard quotient ratio of <1 for noncarcinogens.	1. All hazard quotient ratios are below 1.	Yes	B
	2. Cumulative hazard quotient ratio of <1 for noncarcinogens.	2. Cumulative hazard quotient ratio is 0.020.		B
	3. Excess cancer risk of $<1 \times 10^{-6}$ for individual carcinogens.	3. Excess cancer risk for individual carcinogens are all less than 1×10^{-6}.		B
	4. Attain a cumulative excess cancer risk of $<1 \times 10^{-5}$ for carcinogens.	4. Cumulative excess cancer risk is 3.0×10^{-9}.		B
Groundwater/River Protection – Radionuclides	1. Attain single COC groundwater & river RAGS.	1. All single COC Groundwater and river RAGs have been attained.	Yes	C
	2. Attain National Primary Drinking Water Regulations 4-mrem/yr (beta/gamma) dose standard to target receptor/organ.	2. All organ specific doses are below the 4-mrem/yr dose standard.		C
	3. Meet National Primary Drinking Water Regulations 15 pCi/L (alpha activity) standard.	3. The alpha activity is 0 pCi/L for all years.		C
Groundwater/River Protection – Nonradionuclides	1. Attain individual nonradionuclide groundwater & river RAGs.	1. All the groundwater and river RAGs have been attained.	Yes	A,B
Other Supporting Information	1. The maximum excess cancer risk from radionuclides (calculated via RESRAD modeling) is 4.2×10^{-5} at present.			A
	2. Sample variance calculation (available upon request).			D
	3. Sample location design (available upon request).			E

All citations above and references on attached sheet are on record with Bechtel Hanford, Inc., Document and Information Services. Above noted regulatory requirements have been attained.

BHI Task Manager	Date	BHI Project Engineer	Date	DOE Project Manager	Date
[signature]	8/3/99	[signature]	8/3/99	[signature]	8/3/99

Given the attached information, DOE can proceed with backfill of the site with minimal risk. Final approval that the site has met RAOs and RAGs will occur with the submittal, review, and approval of the Cleanup Verification Package by the lead regulatory agency.

EPA Project Manager	Date	Ecology Project Manager	Date
[signature]	8-3-99	N/A	N/A

Backfill Concurrence Checklist References

Attachment 6

Ref.	Description
***	Summary of cleanup verification results
A	116-B-1 Cleanup Verification RESRAD Calculations, 0100B-CA-N0011, Rev. 0
B	116-B-1 95% UCL Calculations for Compliance with Cleanup Standards, 0100B-CA-V0064, Rev. 0.
C	116-B-1 Comparison to Drinking Water Standards, 0100C-CA-V0065
D	116-B-1 Sample Variance Calculation, 0100B-CA-V0031, Rev. 0
E	116-B-1 Shallow and Deep Area Sampling Locations, 0100B-CA-V0032, Rev. 0

Waste Site: 116-B-11	**BACKFILL CONCURRENCE CHECKLIST** (Concurrence to Proceed with Waste Site Backfill Operations)	Attachment 7 116-B-11

This checklist is a summary of cleanup verification results for this site. The checklist is intended as an agreement allowing the ERC subcontractor to backfill this site prior to the issuance of the final cleanup verification package. The lead regulatory agency has been provided copies of detailed calculations. The results are summarized below.

Regulatory Requirement	Remedial Action Goals (RAG)	Results	RAG Attained	Ref.
Direct Exposure – Radionuclides	1. Attain 15 mrem/yr dose rate above background over 1000 years.	1. Maximum dose calculated by RESRAD is 13.6 mrem/yr (not accounting for clean backfill).	Yes	A
Direct Exposure – Nonradionuclides	1. Attain individual COC RAGs.	1. All individual COC concentrations are below the RAGS.	Yes	B
Meet Nonradionuclide Risk Requirements	1. Hazard quotient ratio of <1 for noncarcinogens.	1. All hazard quotient ratios are below 1.	Yes	B
	2. Cumulative hazard quotient ratio of <1 for noncarcinogens.	2. Cumulative hazard quotient ratio is 0.023.		B
	3. Excess cancer risk of $<1 \times 10^{-6}$ for individual carcinogens.	3. Excess cancer risk for individual carcinogens are all less than 1×10^{-6}.		B
	4. Attain a cumulative excess cancer risk of $<1 \times 10^{-5}$ for carcinogens.	4. Cumulative excess cancer risk is 4.2×10^{-9}.		B
Groundwater/River Protection – Radionuclides	1. Attain single COC groundwater & river RAGS.	1. All single COC Groundwater and river RAGs have been attained.	Yes	C
	2. Attain National Primary Drinking Water Regulations 4-mrem/yr (beta/gamma) dose standard to target receptor/organ.	2. All organ specific doses are below the 4-mrem/yr dose standard.		C
	3. Meet National Primary Drinking Water Regulations 15 pCi/L (alpha activity) standard.	3. The alpha activity is 0 pCi/L for all years.		C
Groundwater/River Protection – Nonradionuclides	1. Attain individual nonradionuclide groundwater & river RAGs.	1. All the groundwater and river RAGs have been attained.	Yes	A,B
Other Supporting Information	1. The maximum excess cancer risk from radionuclides (calculated via RESRAD modeling) is 1.2×10^{-4} at present.			A
	2. Sample variance calculation (available upon request).			D
	3. Sample location design (available upon request).			E

All citations above and references on attached sheet are on record with Bechtel Hanford, Inc., Document and Information Services. Above noted regulatory requirements have been attained.

BHI Task Manager	Date	BHI Project Engineer	Date	DOE Project Manager	Date
A L Lamberd	5/27/99	Frank M Corpuz	5/27/99	[signature]	5/27/99

Given the attached information, DOE can proceed with backfill of the site with minimal risk. Final approval that the site has met RAOs and RAGs will occur with the submittal, review, and approval of the Cleanup Verification Package by the lead regulatory agency.

EPA Project Manager	Date	Ecology Project Manager	Date
[signature]	6-9-99	N/A	N/A

Backfill Concurrence Checklist Attachments/References

Attachment 7

Attachment	Ref.	Description
1	***	Summary of cleanup verification results
2	A	RESRAD Calculations Supporting Closeout of the 116-B-11 Remediation Site, 0100B-CA-N0007
3	B	116-B-11 95% UCL Calculations for Compliance with Cleanup Standards, 0100C-CA-V0054
4	C	116-B-11 Comparison to Drinking Water Standards, 0100C-CA-V0060
	D	Sample Variance Calculation, 0100B-CA-V0019 (available upon request)
	E	Sample Location Design, 0100B-CA-V0020 (available upon request)
5		116-B-11 Deep Zone Cleanup Verification Model, 0100B-CA-V0022

Waste Site: 116-B-13	**BACKFILL CONCURRENCE CHECKLIST** (Concurrence to Proceed with Waste Site Backfill Operations)	Attachment 8 116-B-13

This checklist is a summary of cleanup verification results for this site. The checklist is intended as an agreement allowing the ERC subcontractor to backfill this site prior to the issuance of the final cleanup verification package. The lead regulatory agency has been provided copies of detailed calculations. The results are summarized below.

Regulatory Requirement	Remedial Action Goals (RAG)	Results	RAG Attained	Ref.
Direct Exposure – Radionuclides	1. Attain 15 mrem/yr dose rate above background over 1000 years.	1. Maximum dose calculated by RESRAD is 2.14 mrem/yr (not accounting for clean backfill).	Yes	A
Direct Exposure – Nonradionuclides	1. Attain individual COC RAGs.	1. All individual COC concentrations are below the RAGS.	Yes	B
Meet Nonradionuclide Risk Requirements	1. Hazard quotient ratio of <1 for noncarcinogens.	1. All hazard quotient ratios are below 1.	Yes	B
	2. Cumulative hazard quotient ratio of <1 for noncarcinogens.	2. Cumulative hazard quotient ratio is 0.007.		B
	3. Excess cancer risk of $<1 \times 10^{-6}$ for individual carcinogens.	3. Excess cancer risk for individual carcinogens are all less than 1×10^{-6}.		B
	4. Attain a cumulative excess cancer risk of $<1 \times 10^{-5}$ for carcinogens.	4. Cumulative excess cancer risk is 7.5×10^{-11}.		B
Groundwater/River Protection – Radionuclides	1. Attain single COC groundwater & river RAGS.	1. All single COC Groundwater and river RAGs have been attained.	Yes	C
	2. Attain National Primary Drinking Water Regulations 4-mrem/yr (beta/gamma) dose standard to target receptor/organ.	2. All organ specific doses are below the 4-mrem/yr dose standard.		C
	3. Meet National Primary Drinking Water Regulations 15 pCi/L (alpha activity) standard.	3. The alpha activity is 0 pCi/L for all years.		C
Groundwater/River Protection – Nonradionuclides	1. Attain individual nonradionuclide groundwater & river RAGs.	1. All the groundwater and river RAGs have been attained.	Yes	A,B
Other Supporting Information	1. The maximum excess cancer risk from radionuclides (calculated via RESRAD modeling) is 1.6×10^{-5} at present.			A
	2. Sample variance calculation (available upon request).			D
	3. Sample location design (available upon request).			E

All citations above and references on attached sheet are on record with Bechtel Hanford, Inc., Document and Information Services. Above noted regulatory requirements have been attained.

BHI Task Manager	Date	BHI Project Engineer	Date	DOE Project Manager	Date
[signature]	5/27/99	[signature]	5/27/99	[signature]	5/27/99

Given the attached information, DOE can proceed with backfill of the site with minimal risk. Final approval that the site has met RAOs and RAGs will occur with the submittal, review, and approval of the Cleanup Verification Package by the lead regulatory agency.

EPA Project Manager	Date	Ecology Project Manager	Date
[signature]	6-9-99	N/A	N/A

Backfill Concurrence Checklist Attachments/References

Attachment 8

Attachment	Ref.	Description
1	***	Summary of cleanup verification results
2	A	RESRAD Calculations Supporting Closeout of the 116-B-13 Remediation Site, 0100B-CA-N0009
3	B	116-B-13 95% UCL Calculations for Compliance with Cleanup Standards, 0100C-CA-V0056
4	C	116-B-13 Comparison to Drinking Water Standards, 0100C-CA-V0041
	D	Sample Variance Calculation, 0100B-CA-V0023 (available upon request)
	E	Sample Location Design, 0100B-CA-V0024 (available upon request)

Waste Site: 116-B-14	**BACKFILL CONCURRENCE CHECKLIST** (Concurrence to Proceed with Waste Site Backfill Operations)	Attachment 9 116-B-14

This checklist is a summary of cleanup verification results for this site. The checklist is intended as an agreement allowing the ERC subcontractor to backfill this site prior to the issuance of the final cleanup verification package. The lead regulatory agency has been provided copies of detailed calculations. The results are summarized below.

Regulatory Requirement	Remedial Action Goals (RAG)	Results	RAG Attained	Ref.
Direct Exposure – Radionuclides	1. Attain 15 mrem/yr dose rate above background over 1000 years.	1. Maximum dose calculated by RESRAD is 10.9 mrem/yr (not accounting for clean backfill).	Yes	A
Direct Exposure – Nonradionuclides	1. Attain individual COC RAGs.	1. All individual COC concentrations are below the RAGS.	Yes	B
Meet Nonradionuclide Risk Requirements	1. Hazard quotient ratio of <1 for noncarcinogens.	1. All hazard quotient ratios are below 1.	Yes	B
	2. Cumulative hazard quotient ratio of <1 for noncarcinogens.	2. Cumulative hazard quotient ratio is 0.055.		B
	3. Excess cancer risk of $<1 \times 10^{-6}$ for individual carcinogens.	3. Excess cancer risk for individual carcinogens are all less than 1×10^{-6}.		B
	4. Attain a cumulative excess cancer risk of $<1 \times 10^{-5}$ for carcinogens.	4. Cumulative excess cancer risk is 6.3×10^{-10}.		B
Groundwater/River Protection – Radionuclides	1. Attain single COC groundwater & river RAGS.	1. All single COC Groundwater and river RAGs have been attained.	Yes	C
	2. Attain National Primary Drinking Water Regulations 4-mrem/yr (beta/gamma) dose standard to target receptor/organ.	2. All organ specific doses are below the 4-mrem/yr dose standard.		C
	3. Meet National Primary Drinking Water Regulations 15 pCi/L (alpha activity) standard.	3. The alpha activity is 0 pCi/L for all years.		C
Groundwater/River Protection – Nonradionuclides	1. Attain individual nonradionuclide groundwater & river RAGs.	1. All the groundwater and river RAGs have been attained.	Yes	A,B
Other Supporting Information	1. The maximum excess cancer risk from radionuclides (calculated via RESRAD modeling) is 9.8×10^{-5} at present.			A
	2. Sample variance calculation (available upon request).			D
	3. Sample location design (available upon request).			E

All citations above and references on attached sheet are on record with Bechtel Hanford, Inc., Document and Information Services. Above noted regulatory requirements have been attained.

BHI Task Manager	Date	BHI Project Engineer	Date	DOE Project Manager	Date
[signature]	5/27/99	[signature]	5/27/99	[signature]	5/27/99

Given the attached information, DOE can proceed with backfill of the site with minimal risk. Final approval that the site has met RAOs and RAGs will occur with the submittal, review, and approval of the Cleanup Verification Package by the lead regulatory agency.

EPA Project Manager	Date	Ecology Project Manager	Date
[signature]	6-11-99	N/A	N/A

Backfill Concurrence Checklist Attachments/References

Attachment 9

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Attachment	Ref.	Description
1	***	Summary of cleanup verification results
2	A	RESRAD Calculations Supporting Closeout of the 116-B-14 Remediation Site, 0100B-CA-N0008
3	B	116-B-14 95% UCL Calculations for Compliance with Cleanup Standards, 0100C-CA-V0057
4	C	116-B-14 Comparison to Drinking Water Standards, 0100C-CA-V0036
	D	Sample Variance Calculation, 0100B-CA-V0027 (available upon request)
	E	Sample Location Design, 0100B-CA-V0028 (available upon request)

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Distribution

Unit Managers' Meeting: 100 Area Remedial Action Unit/Source Operable Units

Glenn Goldberg ..... DOE-RL, RP (H0-12)
Owen Robertson ..... DOE-RL, RP (H0-12)
Chris Smith ..... DOE-RL, RP (H0-12)
Eileen Murphy-Fitch ..... DOE-RL (H0-12)

Lisa Treichel ..... DOE-HQ (EM-442)

Wayne Soper ..... WDOE (Kennewick) (B5-18)
Rick Bond ..... WDOE (Kennewick) (B5-18)

Dennis Faulk ..... EPA (B5-01)

Lynn Albin ..... Washington Dept. of Health
Richard Jaquish ..... Washington Dept. of Health

John April ..... BHI (H0-17)
Ella Coenenburg ..... BHI (H9-03)
Frank Corpuz ..... BHI (X9-06)
Rick Donahoe ..... BHI (H0-17)
Jon Fancher ..... CHI (H9-02)
Alvina Goforth ..... BHI (H0-09)
Chris Kemp ..... BHI (S3-20)
Tom Kisenwether ..... BHI (X9-10)
Alvin Langstaff ..... BHI (X3-40)
Tamen Rodriguez ..... BHI (H0-17)
Fred Roeck ..... BHI (H0-17)
Mark Sturges ..... CHI (X3-40)
Joan Woolard ..... BHI (H0-02)
Administrative Record ..... BHI (H0-09)

Please inform Tamen Rodriguez (372-9562) – BHI (H0-17)
of deletions or additions to the distribution list.